



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,601	08/10/2001	Shunichi Hosoyamada	NIS.039	5450

7590 06/25/2004
McGinn & Gibb, PLLC
Suite 200
8321 Old Courthouse Road
Vienna, VA 22182-3817

EXAMINER

DINH, DUC Q

ART UNIT	PAPER NUMBER
----------	--------------

2674

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,601

Applicant(s)

HOSOYAMADA, SHUNICHI

Examiner

DUC Q DINH

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/30/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-24, 43-48 and 52 is/are allowed.
- 6) ☒ Claim(s) 1-18, 25-42, 49-51, 53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Appeal Brief filed on 03/30/04, PROSECUTION IS HEREBY REOPENED. A new ground rejection as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2674

Claims 1-18, 25-42, 49-51, 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art, hereinafter AAPA (page 1-7 and Fig. 12-16), in view of Moriyama (U. S. Patent No. 5,790,092).

In reference to claim 1, the AAPA discloses an LCD in Fig. 12 in which a liquid crystal display cell is mounted at an intersection of a plurality of scanning electrodes and placed at a specified intervals in a row direction and each of a plurality of signal electrodes plated at specified interval in a column direction, by sequentially feeding scanning signals to said plurality of said scanning electrodes and by sequentially feeding data signals to said plurality of the signal electrode, after having reversed the polarity of the data signal Sd based on the polarity reversing pulse POL, feeds each of them to each of corresponding signal electrodes 43 (page 3, lines 5-28). However, the AAPA does not disclose the circuit for reversing a polarity of each of the data signals for every 2n piece of the scanning electrodes and for every the signal electrode in the liquid crystal display and reversing a polarity for every pixel signal electrode... Moriyama discloses 13 A and 13 B a method for reversing a polarity of each of the data signals for every 2n piece of the scanning electrodes and for every the signal electrode in the liquid crystal display and reversing a polarity for every pixel signal electrode...

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide method of Moriyama for reversing a polarity of each of the data signals for every 2n piece of the scanning electrodes and for every the signal electrode in the liquid crystal display and reversing a polarity for every pixel signal electrode in the AAPA because it would provide a method for providing a liquid crystal display permitting an effectively reduced power

Art Unit: 2674

dissipation in signal generation and/or effectively reduced vertical striped shades in frame control (col. 7, line 65 – col. 8, line 2)

In reference to claims 2-3, the AAPA discloses the three color filters are arranged as claimed (see Fig. 13).

In reference to claim 4, the AAPA disclose the arrangement of four-dot pixel arranged in a quadrangular form as claimed (AAPA page 5, lines 4-9).

In reference to claims 5- 6, the AAPA discloses that the LCD 41 of Fig. 12 is an active matrix color using, for example, a TFT (Thin Film Transistor).

In reference to claim 7, refer to the rejection as applied to claim 1. In addition, Moriyama discloses the waveform in Fig. 12 satisfying the claimed limitation.

In reference to claims 8-9, refer to the rejections as applied to claims 2-3.

In reference to claim 10, refer to the rejection as applied to claim 4.

In reference to claims 11-12, refer to the rejection as applied to claim 5-6.

In reference to claim 13, refer to the rejection as applied to claim 1. Moriyama discloses the j-th source drive signal S_j appears as a j-th image signal VS_j (not shown for $j > 2$). The image signals each have a transient voltage level representative of a processed image data for the liquid crystal, substantially within a range of 0V to +10V, i.e., $5V \pm .5V$. The image data may comprise a chromatic or monochromatic data and a luminance data which may include a gray background component (Fig. 12, col. 11 – col. 12, line 5).

In reference to claims 14-18, refer to the rejections as applied to claims 2-6.

Art Unit: 2674

In reference to claims 49-50, 51, and 53, refer to the rejection as applied to claims 1 and 13

Claims 25-42, 54, are apparatus claims corresponding to the method of claims 1-18, 49-51 and 53 and therefore, rejected based on the same basis set forth in said claims.

Allowable Subject Matter

3. Claims 19-24, 43-48, 52 and allowed.

The following is a statement of reasons for the indication of allowable subject matter:

None of the cited arts teaches or suggests:

displaying gray-scale color of a monochromatic color by reversing a data signal made up, relative to a common potential being applied to one terminal of all said liquid crystal cells and during four consecutive scanning periods, of combinations of a signal having a potential of a first polarity that corresponds to an intermediate transmittance between maximum and minimum transmittance of said liquid crystal cell of a signal having a potential of a first polarity that corresponds to said minimum transmittance of said liquid crystal cell and of combinations of a signal having a potential of a second polarity that corresponds to said intermediate transmittance between said maximum and minimum transmittance of said liquid crystal cell and of a signal having a potential of said second polarity that corresponds to said minimum transmittance of said liquid crystal cell, for every said signal electrode and by sequentially feeding said data signal having the reversed polarity to each of corresponding said signal electrodes.

Response to Arguments

4. Applicant's arguments with respect to claims 1-54 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

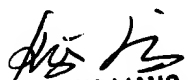
Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,
Arlington, Va Sixth Floor (Receptionist)

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-4700.

DUC Q DINH
Examiner
Art Unit 2674

DQD
June 22, 2004


REGINA LIANG
PRIMARY EXAMINER